Abstracts

Semiconductor laser sources for externally modulated microwave analog links

G.E. Betts, J.P. Donnelly, J.N. Walpole, S.H. Groves, F.J. O'Donnell, L.J. Missaggia, R.J. Bailey and A. Napoleone. "Semiconductor laser sources for externally modulated microwave analog links." 1997 Transactions on Microwave Theory and Techniques 45.8 (Aug. 1997, Part II [T-MTT]): 1280-1287.

High-performance semiconductor continous-wave (CW) sources are demonstrated in this paper, which include a Fabry-Perot (FP) laser oscillator (LO) with relative intensity noise (RIN) <-165 dB/Hz at frequencies above 500 MHz, and a tapered semiconductor optical amplifier with 35-dB gain, a maximum output power of 820 mW, and RIN/spl ap/-155 dB/Hz at microwave frequencies. These are used in suboctave-bandwidth analog links to demonstrate link performance comparable to that available with solid-state laser sources.

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